

NOTE: This draft, dated 21 June, 2001, prepared by NAWC-AD-PAX, has not been approved and is subject to modification. DO NOT USE FOR ACQUISITION PURPOSES.

INCH-POUND

MIL-PRF-81542B (AS)  
XX June, 2001  
SUPERSEDING  
MIL-L-81542A (AS)  
29 March, 1976

## PERFORMANCE SPECIFICATION

### LIFE RAFTS, INFLATABLE, SINGLE-PLACE

This specification is approved for use by the Naval Air Systems Command, Department of the Navy, and is available for use by all Departments and Agencies of the Department of Defense.

#### 1. SCOPE

1.1 Scope. This specification covers the requirements for an inflatable one-man life raft.

#### 2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in sections 3 and 4 of this specification, whether or not they are listed.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to:  
Commander, Naval Air Warfare Center Aircraft Division, Code 414100B120-3,  
Highway 547, Lakehurst, NJ 08733-5100, by using the Standardization Document  
Improvement Proposal (DD Form 1426) appearing at the end of this document or by

AMSC N/A

FSC 4220

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

## MIL-PRF-81542B(AS)

### 2.2 Government documents.

2.2.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DoDISS) and supplement thereto, cited in the solicitation.

### SPECIFICATIONS

#### DEPARTMENT OF DEFENSE

- MIL-A-3339 - Anchors, sea, life raft
- MIL-C-83489 - Cloth, coated, nylon, polyurethane coated

### STANDARDS

#### FEDERAL

- FED-STD-595 - Colors

#### DEPARTMENT OF DEFENSE

- MIL-STD-810 - Environmental Engineering Considerations and Laboratory Tests.

(Unless otherwise indicated, copies of the above specifications, standards, and handbooks are available from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.3 Order of precedence. In the event of a conflict between the text of this document and the references cited herein (except for related associated specifications or specification sheets), the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

### 3. REQUIREMENTS

3.1 General. Single-place life rafts furnished under this specification shall be designated as the following types:

Type I	-	Navy SKU-3/A Configuration
Type II	-	Navy SKU-7/10/11 Configurations
Type III	-	Navy RSSK-8 Configurations
Type IV	-	Navy Non-Vacuum Packed Configuration
Type V	-	Navy Helicopter Backpack Configurations
Type VI	-	USAF Configurations
Type VII	-	USAF Configurations

Specific configuration requirements shall be in accordance with applicable specification sheets MIL-PRF-81542/1 thru 7. The life raft shall be manufactured and designed to incorporate a cost effective life cycle with respect to maintenance, shelf life, repack, and/or replacement. The life raft shall meet all the requirements specified herein.

3.2 Qualification. Life rafts furnished under this specification shall be products that are authorized by the qualifying activity for listing on the applicable qualified products list before contract award (see 4.2 and 6.3).

3.3 Materials and seams. The material of the raft main buoyancy tube shall conform to MIL-C-83489, Type I. The latest technology materials and processes shall be utilized. The use of ozone depleting substances (ODS) shall be limited.

3.4 Inflation system. The inflation system shall not leak during the manufacturer's established raft repack / recertification cycle.

3.4.1 Secondary inflation. Means readily accessible to the life raft occupant shall be provided to complete inflation (top-off) and/or provide emergency inflation to maintain operating pressure. This means shall be properly located and/or reinforced and protected against any possible leakage or damage that may occur due to reduced volume packing.

3.5 Canopy. The life raft design shall incorporate an inflatable canopy system to provide aircrew protection from sea spray and extreme weather conditions. The canopy shall provide adequate headroom based on the anthropometric data presented in Table I, and shall have the

## MIL-PRF-81542B(AS)

capability of being made weathertight. A clear visor or other means shall be incorporated to allow the aircrewman vision when the canopy is made weathertight. Raft buoyancy shall not be affected by the integrity of the canopy system.

3.6 Sea anchor. A sea anchor shall be incorporated into the raft design to maintain the raft in a sea environment. The sea anchor shall conform to MIL-A-3339, Type I or equivalent.

3.7 Stowage pockets. Stowage pockets shall be incorporated into the life raft to hold the strobe light and the radio beacon. The strobe light pocket shall be located on the outside of the raft for signaling purposes. Stowage pocket dimensions shall be as follows: 5" x 3.5", 1" depth for the strobe light and 8" x 4", 2" depth for the radio beacon.

3.8 Equipment container attachment. A means shall be provided to secure the survival equipment container to the inside of the raft.

3.9 Capsize resistance. The life raft shall have ballast bags or other means to provide stability and capsize resistance.

3.10 Righting aid. Means shall be provided to right the life raft if it inflates in an inverted position. The means provided for righting shall be such that it can be used by one person in the water.

3.11 Life raft equipment. All lines shall be stowed and secured to prevent entanglement during launching / inflation of the life raft.

3.12 Color. The color of the life raft surfaces, including the canopy surface, shall approximately match 35042 (Lusterless Blue) of FED-STD-595. High visibility orange shall be used on the inside of the canopy for rescue operations.

3.13 Capacity. The life raft shall have adequate capacity for an aircrewman wearing standard aviation life support equipment including a flight suit, survival vest, inflated life preserver, and flight boots. Anthropometric data is presented in Table I.

MIL-PRF-81542B(AS)

Table I  
ANTHROPOMETRIC CHARACTERISTICS

Measurement	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7
	Measurements are in inches.						
	Overall Small	Short Sitting Heights with Long Limbs	Large Sitting Height with Short Limbs	Overall Large	Longest Limbs	Shortest Torso	
Thumb Tip Reach	27.0	27.6	33.9	29.7	35.6	36.0	26.1
Buttock-knee Length	21.3	21.3	26.5	22.7	27.4	27.9	20.8
Knee-height Sitting	18.7	19.1	23.3	20.6	24.7	24.8	18.1
Sitting Height	32.8	35.5	34.9	38.5	40.0	38.0	31.0
Eye Height Sitting	28.0	30.7	30.2	33.4	35.0	32.9	26.8
Shoulder Height Sitting	20.6	22.7	22.6	25.2	26.9	25.0	19.5
Shoulder Breadth Range	14.7-18.1	16.4-20.6	16.2-21.2	16.8-21.7	16.9-22.6	16.8-22.5	14.2-18.0
Chest Depth Range	7.4-10.9	6.9-10.6	7.2-11.3	7.1-11.0	7.3-12.1	7.4-12.2	7.2-10.2
Thigh Circumference Range	18.5-25.0	17.1-25.0	20.2-27.6	17.6-26.3	18.6-29.2	19.1-29.7	17.8-25.2
Weight Range	103 pounds to 245 pounds						

3.14 Buoyancy. The life raft shall provide a freeboard of no less than 2 inches at its lowest point immediately after boarding with a fully equipped aircrewman in accordance with Table I.

3.15 Weight. The weight of the packaged life raft including the inflation assembly shall not exceed 10 lbs.

3.16 Packaging for stowage.

## MIL-PRF-81542B(AS)

3.16.1 Reduced volume packaging. The life raft shall be sealed in reduced volume packaging. The seal shall provide protection and preservation for the raft in an aircraft environment. The life raft shall be sealed in such a way as to guarantee verification of airtight packaging by visual methods.

3.16.2 Packed configurations. The life raft packed configuration shall be in accordance with applicable specification sheets MIL-PRF-81542/1 thru 7.

3.17 Actuation. All life raft types shall have the capability of being actuated manually by pulling an inflation lanyard. Types I-IV and Types VI-VII shall also have the capability of actuating automatically by gravity drop on kit actuation when tested in accordance with paragraph 4.9. The pull force required for actuation shall not exceed 30 lbs when tested in accordance with paragraph 4.8.

### 3.18 Raft pressure.

3.18.1 Pressure. The pressure in the raft flotation tube shall be not less than 95% of 2 times the manufacturer's specified operating pressure, when tested in accordance with 4.10.1.

3.18.2 Leakage. The pressure in the raft flotation tube shall be not less than 80% of the manufacturer's specified operating pressure, when tested in accordance with 4.10.2.

3.19 Function/operation. The life raft shall inflate at the required pull force to its design shape in not more than 60 seconds when tested as specified in 4.11. During the inflation, the life raft shall be observed for impediment or blockage of the flow of gas, loss of gas to the ambient air, or restriction by any component or accessory. There shall be no evidence of structural or material failure in any respect. All the sealed areas, seams, seam tapes, and attachments shall remain intact and shall show no indication of separation. The floor shall not be distorted and there shall not be a difference in the rise between the sides of the raft. The erected canopy shall be capable of withstanding 35-knot winds and 52-knot gusts in open water. The life raft shall demonstrate seaworthiness and stability in an open sea condition of 17 to 27 knot winds and waves of 6 to 10 feet. The raft shall be easily boarded by a subject wearing standard aviation life support equipment including a flight suit, survival vest, inflated life preserver, and flight boots. See Table I for Anthropometric data.

### 3.20 Environmental.

## MIL-PRF-81542B(AS)

### 3.20.1 Temperature extremes.

3.20.1.1 Low temperature. The life raft shall inflate into a boardable shape within 3 minutes at 0 °F (-18 °C) when tested as specified in 4.12.1.1. Inflation shall be without any hindrance to the flow of gas or restriction by any component or accessory. All the seams, seam tapes, sealed areas and attachments shall remain perfectly intact and shall show no evidence of separation. There shall be no evidence of constructional or material failure in any respect.

3.20.1.2 High temperature. The life raft shall inflate to design shape within 60 seconds at 160 °F (71 °C) when tested as specified in 4.12.1.2. Inflation shall be without any hindrance to the flow of gas or restriction by any component or accessory. All the seams, seam tapes, sealed areas and attachments shall remain perfectly intact and shall show no evidence of separation. There shall be no evidence of constructional or material failure in any respect.

3.20.2 Low pressure (altitude). The packed life raft shall withstand a low pressure environment, and rapid pressure changes when tested as specified in 4.12.2. The life raft shall show no leakage of gases and no rupture or failure of sealed packaging.

3.20.3 Vibration. The packed life raft shall resist the effects of aircraft vibration when tested as specified in 4.12.3. The life raft shall show no leakage of gases and no rupture or failure of sealed packaging.

3.20.4 Accelerated aging / life cycling. The packed life raft shall withstand the effects of accelerated aging / life cycling when tested as specified in 4.12.4. The life raft shall inflate to design shape within 60 seconds when actuated as specified in 4.12.4. Inflation shall be without any hindrance to the flow of gas or restriction by any component or accessory. All the seams, seam tapes, sealed areas and attachments shall remain perfectly intact and shall show no evidence of separation. There shall be no evidence of constructional or material failure in any respect. Immediately following this test, the raft shall be visually examined as specified in 4.5, and pressure / leakage tested as specified in 4.10.

### 3.21 Markings.

3.21.1 Operational marking. The life raft shall be marked in contrasting washproof ink, which is not detrimental to the fabric, to denote the use and location of the inflation systems (including instructions on manual actuation), raft equipment, boarding aids and righting aids. The letters used for such markings shall be at least 1 inch high except that details and

MIL-PRF-81542B(AS)

miscellaneous instructions may be of smaller lettering. Applicable markings shall take into account aircrewmembers boarding or righting the raft from the water.

3.21.2 Raft identification. Each life raft shall be identified by name of manufacturer, contract no., date of manufacturer, and serial number. The serial number shall be assigned by the manufacturer and shall be by a block of consecutive numbers to cover the entire acquisition quantity. All markings shall be legible, durable, permanent, and thoroughly dry prior to packing and packaging.

#### 4. VERIFICATION

4.1 Classification of inspections. The inspection requirements specified herein are classified as follows:

- a. Qualification inspection (see 4.2).
- b. Conformance inspection (see 4.3).

4.2 Qualification inspection. The qualification inspection of the life rafts shall consist of all the examinations and tests specified in table II.

TABLE II. Qualification examinations and tests.

Inspection	Requirement	Test Method
Weight	3.15	4.6
Packaging for stowage	3.16	4.7
Actuation pull force test	3.17	4.8
Jump test	3.17	4.9
Pressure	3.18.1	4.10.1
Leakage	3.18.2	4.10.2
Operational test	3.13, 3.14, 3.19	4.11
Visual examination	3.3-3.12, 3.21	4.5
Temperature extremes test	3.20.1	4.12.1
Low pressure (altitude ) test	3.20.2	4.12.2
Vibration	3.20.3	4.12.3
Accelerated aging / life cycle	3.20.4	4.12.4



## MIL-PRF-81542B(AS)

4.2.1 Qualification samples. The qualification samples shall consist of the following quantities of raft types: Type I – 2, Type II – 2, Type III – 1, Type IV – 1, Type V – 1, Type VI – 2, and Type VII – 2. Samples shall be forwarded as specified in the correspondence authorizing submission of samples for qualification testing (see table II and 6.2). Additionally, each sample shall be plainly identified by securely attached tags containing the following information:

Qualification Inspection Sample  
Raft Type  
Manufacturer's Designation  
Manufacturer's name and CAGE  
Serial Number

4.3 Conformance inspection. Production lot testing shall be accomplished in accordance with the procurement contract. The conformance inspection shall consist of the tests and examinations specified in table III (see 6.2).

TABLE III. Conformance examinations and tests.

Inspection	Requirement	Test Method
Weight	3.15	4.6
Packaging for stowage	3.16	4.7
Actuation pull force test	3.17	4.8
Jump test <u>1/</u>	3.17	4.9
Pressure	3.18.1	4.10.1
Leakage	3.18.2	4.10.2
Operational test <u>1/</u>	3.13, 3.14, 3.19	4.11
Visual examination	3.3-3.12, 3.21	4.5
Temperature extremes test <u>1/</u>	3.20.1	4.12.1
Low pressure (altitude ) test <u>1/</u>	3.20.2	4.12.2
Vibration <u>1/</u>	3.20.3	4.12.3
Accelerated aging / life cycle <u>1/</u>	3.20.4	4.12.4

Note: 1/ Examination/test shall be performed only when required by the contract.

4.4 Inspection conditions for leakage testing.

## MIL-PRF-81542B(AS)

4.4.1 Atmospheric conditions. Unless otherwise specified in the contract, all pressure / leakage tests required by this specification shall be conducted at a barometric pressure of 28 to 32 inches of mercury and at a temperature of  $77 \pm 18$  °F ( $25 \pm 10$  °C). If the final values of the ambient temperature or barometric pressure at the end of the four-hour air pressure inspection are different from the initial values recorded at the start of the inspection, the following corrections should be made to the final pressure readings in psig.

4.4.2 Temperature correction. For each degree Fahrenheit rise in temperature, 0.031 psig shall be subtracted from the final pressure reading. For each degree Fahrenheit drop in temperature, 0.031 psig shall be added to the final pressure reading. The corresponding correction per degree Celsius is 0.056 psig.

4.4.3 Barometric pressure correction. For each 0.1 inch of mercury rise in barometric pressure, 0.049 psig shall be added to the final temperature-corrected pressure reading. For each 0.1 inch of mercury drop in barometric pressure, 0.049 psig shall be subtracted to the final temperature-corrected pressure reading.

4.5 Visual examination. The visual examination shall be performed to verify conformance to the requirements specified in section 3. Table IV shall be used to classify and enumerate the defects.

MIL-PRF-81542B(AS)

TABLE IV. Classification of defects for visual examination of the life rafts.

Critical	Minor
1. Any hole, cut, tear, patch, or burn	201. Any spot or stain. <u>2/</u>
2. Any fabric damaged, bruised, abraded, containing imperfections, or otherwise defective. <u>2/</u>	202. Any cut edge of uncoated nonfibrous material not seared or containing sharp edges.
3. Excessive bias in fabric resulting in twisting of primary buoyancy tube. <u>1/</u>	203. Any slide fastener improperly installed or inoperable.
4. Any stitching in the inflatable section of the life raft.	204. Stitching damaged or defective.
5. Attachment of the floor or canopy to the inflatable tube not reinforced or not attached.	205. Any pile or hook tape damaged or defective.
6. Inflation assembly or manifold stem assembly not in accordance with requirements, or inoperable.	206. Oral inflation assembly or components not as specified; oral valve not locked in the closed position.
7. Any pillowing of the sealed packed raft by inflation system leakage or loss of integrity of sealed vacuum packaging.	207. Any required markings, illegible, incomplete, incorrect, or improperly located.
8. An inflatable section seam separation or construction which does not meet the specified minimum requirements.	208. Color of any component, not as specified.
9. Any channels or voids in any seam on the inflatable section.	209. Accessory or other container not closed.
10. Topping-off valve damaged or in open position.	210. Life raft improperly folded.
11. Any metal component improperly finished or containing nicks, burrs, dents, sharp edges or rough surfaces. <u>2/</u>	211. Any wrinkles, channels, or voids in any seam, patch or attachment on the inflatable section. <u>2/</u>
12. Any component, component part, or required operation omitted; or any operation improperly performed, not herein classified. <u>2/</u>	212. Cement on the cloth surfaces around patches or attachments.
13. Any component not as specified, or any defect of a component or assembly not herein classified. <u>2/</u>	213. Any clot or mass of adhesive.
	214. Overlap of any seam tape in excess of requirements.
	215. Any seam tape, patch or attachment separating. <u>2/</u>

MIL-PRF-81542B(AS)

- 1/ If excessive twisting of the primary buoyancy tube is evident, the life raft shall be examined as follows: With the primary buoyancy tube inflated to its specified operating pressure and with the floor and the canopy (if applicable) deflated, the life raft shall be placed on a horizontal surface. A 3-inch block shall be placed under the life raft at two diagonally opposite locations. A gap between the bottom of the primary buoyancy tube and the 3-inch high block is evidence of excessive bias in the fabric and shall be classified as a critical failure
- 2/ The defect shall be classified Critical when it seriously affects serviceability or function; otherwise, it is to be classified Minor.

4.6 Weight. The weight of the life raft shall conform to the requirements of 3.15.

4.7 Packaging for stowage. The raft in its packed configuration for stowage shall be evaluated for its conformance to paragraph 3.16.

4.8 Actuation pull force. Actuation of the life raft shall be tested both for manual and automatic actuation (kit release). The actuation shall be checked for its conformance to the requirements of 3.17.

4.9 Jump test. Applicable rafts shall be evaluated for automatic actuation (kit release) by performing a jump test. Each applicable packed configuration shall be evaluated for its conformance to 3.17.

4.10 Raft pressure.

4.10.1 Pressure. The completely deflated life raft shall be placed in a horizontal position on the floor or table of the inspection area. All the pressure readings shall be taken with the raft in this position. The flotation tube shall be inflated, with air, to 2 times the manufacturer's specified operating pressure. The air supply shall be securely shut off and after a minimum of 10 minutes, the pressure in the raft flotation tube shall be checked and readjusted, if necessary, to the original pressure. At the end of a minimum of 10 minutes after the readjustment period, the pressure in the tube shall be not less than 95% of 2 times the manufacturer's specified operating pressure. While inflated, the raft shall be visually examined (see 4.5) and meet the requirements of 3.18.1. Upon completion of the testing and examination, the raft flotation tube shall be completely deflated and the raft shall then be subjected to the leakage inspection.

4.10.2 Leakage. The completely deflated life raft shall be placed in a horizontal position on the floor or table of the inspection area. The temperature and pressure readings shall be taken with the raft in this position and in the vicinity of the raft. The inflatable tube shall be inflated, with air, to the manufacturer's specified operating pressure. The air supply shall be securely

## MIL-PRF-81542B(AS)

shut off and after a minimum of 15 minutes, the pressure in the tube shall be checked and readjusted, if necessary. At the end of a minimum of 4 hours, after the readjustment period, the pressure shall be measured and corrected for any change in the temperature or barometric pressure (see 4.4). The corrected pressure in the raft flotation tube shall be not less than 80% of the operating pressure. The raft shall meet the requirements of 3.18.2.

4.11 Operational tests. In either a controlled pool, fresh water, or at sea, the life raft operation shall be demonstrated as follows:

Capacity and buoyancy shall be verified for conformance with the requirements of paragraphs 3.13 and 3.14. Function / operation of the life raft shall be evaluated for its conformance to paragraph 3.19. The life raft's components and features shall be evaluated for its conformance to the requirements as specified in section 3.

### 4.12 Environmental tests.

#### 4.12.1 Temperature extremes test.

4.12.1.1 Low temperature test. The life raft shall be conditioned at  $0 \pm 2$  °F ( $-18 \pm 1$  °C) for not less than 48 hours. The raft shall then be removed to the inspection area and placed on a table or on the floor. The inflation equipment shall be immediately actuated. The life raft shall be observed for conformance to the requirements of 3.20.1.1.

4.12.1.2 High temperature test. The test procedures set forth in 4.12.1.1 shall be repeated, except the raft shall be conditioned at  $160 \pm 2$  °F ( $71 \pm 1$  °C) instead of 0 °F, for not less than 48 hours. The raft shall be observed for conformance to the requirements of 3.20.1.2.

4.12.2 Low pressure (altitude) test. The packed life raft shall be tested in a low pressure environment in accordance with MIL-STD-810, Method 500, Procedure III. At the completion of the test, the raft shall be removed from the low pressure environment and observed for its conformance to the requirements of 3.20.2.

4.12.3 Vibration test. The packed life raft shall be tested for its ability to withstand aircraft vibration in accordance with MIL-STD-810, Method 514. The vibration levels shall be tailored to represent specific aircraft in accordance with the applicable specification sheets. At the completion of the vibration test, the life raft shall be observed for its conformance to the requirements of 3.20.3.

4.12.4 Accelerated aging test. The accelerated aging / life cycle test shall include altitude cycling between 0 and 12,000 ft. at a constant accelerated temperature between 70°C – 85°C. Based on 200 flights per year, the performance of 1,000 altitude cycles during the temperature

## MIL-PRF-81542B(AS)

soak should provide a five (5) year life. The number of cycles shall be contingent upon the manufacturer's proposed life cycle. An altitude rate of change of 2,000 ft. per minute and a one-minute dwell at 12,000 ft. altitude shall be performed. The raft shall then be removed to the inspection area and placed on a table or on the floor. The inflation equipment shall be immediately actuated. The life raft shall be observed for conformance to the requirements of 3.20.4.

### 5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of material is to be performed by DoD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department of Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

### 6. NOTES

(This section contains information of a general or explanatory nature which may be helpful, but is not mandatory.)

6.1 Intended use. The rafts are intended for use as emergency equipment by military aircrews forced down at sea. Commercial life rafts do not meet the stringent protection and packaging requirements necessary for military aircraft use.

6.2 Acquisition requirements. Acquisition documents must specify the following:

- a. Title, number, and date of this specification.
- b. Issue of DoDISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.2).
- c. Certificate of compliance for the age of the materials and components (see 3.1 and 3.4).
- d. Qualification samples (see 4.2.1).
- e. Name and address of the conformance verification inspection facility (see 4.3); and the name and address of the Government activity responsible for conducting the conformance verification inspection program (see 4.3).

## MIL-PRF-81542B(AS)

f. Packaging requirements (see 5.1).

6.3 Qualification. With respect to products requiring qualification, awards will be made only for products which are, at the time of award of contract, qualified for inclusion in Qualified Products List QPL-81542 whether or not such products have actually been so listed by that date. The attention of the contractors is called to these requirements, and manufacturers are urged to arrange to have the products that they propose to offer to the Federal Government tested for Qualification in order that they may be eligible to be awarded contracts or purchase orders for the products covered by this specification. Information pertaining to qualification of products may be obtained from Naval Air Warfare Center, Aircraft Division, Code 4.6.3.3, Patuxent River, MD, 20670.

### 6.4 Definition of terms.

Pillowing - The process of a hard vacuum packed item becoming soft and increasing in volume.

Reduced volume packaging - The packaging of an item in such a way as to decrease the packaged volume of the item (not necessarily by vacuum packaging).

### 6.5 Subject term (key word) listing.

Canopy  
Heat sealed  
Survival

6.6 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

## CONCLUDING MATERIAL

Custodians:  
Navy – AS

Preparing Activity:  
Navy – AS

(Project 4220-0446)

## STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

### INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.
2. The submitter of this form must complete blocks 4, 5, 6, and 7, and send to preparing activity.
3. The preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

**I RECOMMEND A CHANGE:**

**1. DOCUMENT NUMBER**

**2. DOCUMENT DATE (YYYYMMDD)**

**3. DOCUMENT TITLE**

LIFE RAFTS, INFLATABLE, ONE-MAN

**4. NATURE OF CHANGE** (*Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.*)

**5. REASON FOR RECOMMENDATION**

**6. SUBMITTER**

a. NAME (*Last, First, Middle Initial*)

b. ORGANIZATION

c. ADDRESS (*Include ZIP Code*)

d. TELEPHONE (*Include Area Code*)  
(1) Commercial

**7. DATE SUBMITTED**  
(YYYYMMDD)

(2) DSN  
(*If applicable*)

**8. PREPARING ACTIVITY**

a. NAME

COMMANDER  
NAVAL AIR WARFARE CENTER  
AIRCRAFT DIVISION

b. TELEPHONE (*Include Area Code*)

(1) Commercial  
(732) 323-2947

(2) DSN  
624-2947

c. ADDRESS (*Include ZIP Code*)

CODE 414100B120-3  
HIGHWAY 547  
LAKEHURST, NJ 08733-5100

**IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT:**

Defense Standardization Program Office (DLSC-LM)  
8725 John J. Kingman Road, Suite 2533  
Fort Belvoir, Virginia 22060-6221  
Telephone (703) 767-6888 DSN 427-6888



NOTE: This draft, dated 21 June, 2001, prepared by NAWC-AD-PAX, has not been approved and is subject to modification. DO NOT USE FOR ACQUISITION PURPOSES.

INCH-POUND
------------

MIL-PRF-81542B/1 (AS)  
XX June, 2001  
 SUPERSEDING  
 MIL-L-81542A (AS)  
 29 March, 1976

## PERFORMANCE SPECIFICATION SHEET

### LIFE RAFTS, INFLATABLE, SINGLE-PLACE

This specification is approved for use by the Naval Air Systems Command, Department of the Navy, and is available for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and the issue of MIL-PRF-81542 listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation.

#### REQUIREMENTS:

Type I – Navy SKU-3/A Configuration (F/A –18A/B/C/D)

Packed Configuration. The packed dimensions of the Type I raft shall be no larger than the dimensions presented in Figure 1. The inflation cord attachment point shall be located to enable raft actuation during seat kit release and drop line extension.

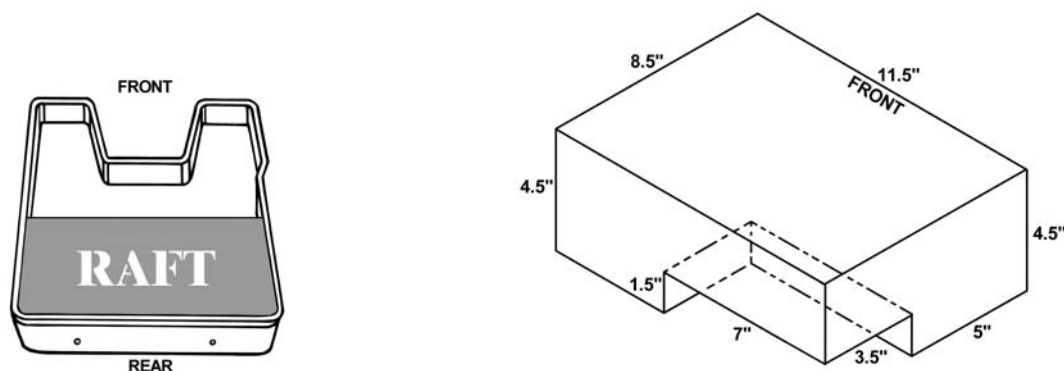


Figure 1.

AMSC N/A

FSC 4220

1 of 1

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

NOTE: This draft, dated 21 June, 2001, prepared by NAWC-AD-PAX, has not been approved and is subject to modification. DO NOT USE FOR ACQUISITION PURPOSES.

INCH-POUND
------------

MIL-PRF-81542B/2 (AS)  
XX June, 2001  
 SUPERSEDING  
 MIL-L-81542A (AS)  
 29 March, 1976

## PERFORMANCE SPECIFICATION SHEET

### LIFE RAFTS, INFLATABLE, SINGLE-PLACE

This specification is approved for use by the Naval Air Systems Command, Department of the Navy, and is available for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and the issue of MIL-PRF-81542 listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation.

#### REQUIREMENTS:

Type II – Navy SKU-7/10/11 Configurations (F-14D, F/A-18C/D, T-45A/C)

Packed Configuration. The packed dimensions of the Type II raft shall be no larger than 5" x 6" x 14.5". The inflation cord attachment point shall be located to enable raft actuation during seat kit release and drop line extension. The packed configuration shall be in accordance with Figure 2.

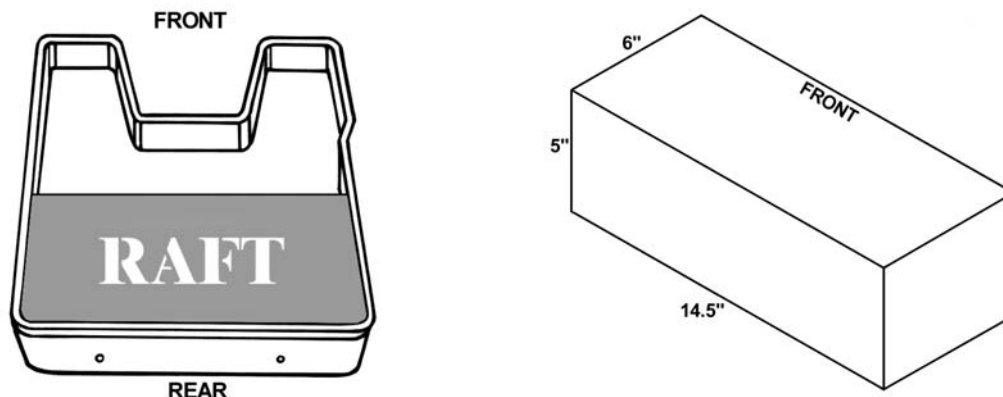


Figure 2.

AMSC N/A

FSC 4220

1 of 1

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

NOTE: This draft, dated 21 June, 2001, prepared by NAWC-AD-PAX, has not been approved and is subject to modification. DO NOT USE FOR ACQUISITION PURPOSES.

INCH-POUND
------------

MIL-PRF-81542B/3 (AS)  
XX June, 2001  
 SUPERSEDING  
 MIL-L-81542A (AS)  
 29 March, 1976

## PERFORMANCE SPECIFICATION SHEET

### LIFE RAFTS, INFLATABLE, SINGLE-PLACE

This specification is approved for use by the Naval Air Systems Command, Department of the Navy, and is available for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and the issue of MIL-PRF-81542 listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation.

#### REQUIREMENTS:

Type III – Navy RSSK-8 Configuration (S-3, A-7)

Packed Configuration. The packed dimensions of the Type III raft shall be no larger than the dimensions presented in Figure 3. The inflation cord attachment point shall be located to enable raft actuation during seat kit release and drop line extension.

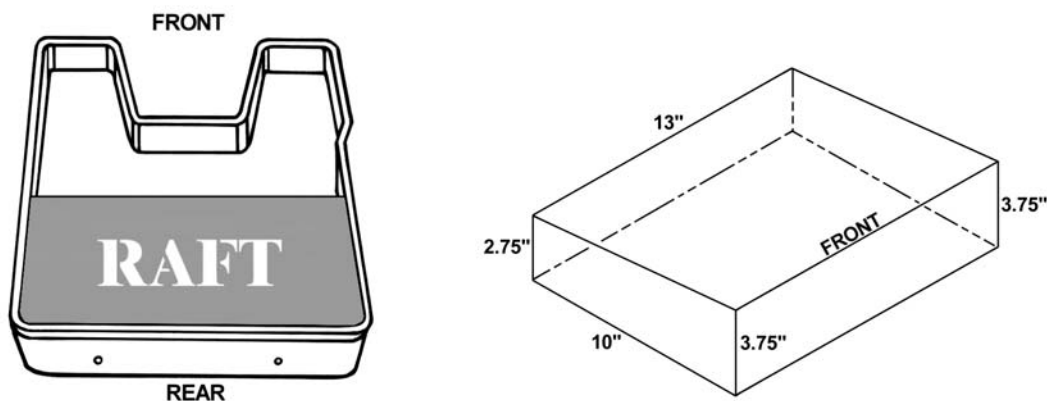


Figure 3.

AMSC N/A

FSC 4220

1 of 1

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

NOTE: This draft, dated 21 June, 2001, prepared by NAWC-AD-PAX, has not been approved and is subject to modification. DO NOT USE FOR ACQUISITION PURPOSES.

INCH-POUND

MIL-PRF-81542B/4 (AS)  
XX June, 2001  
SUPERSEDING  
MIL-L-81542A (AS)  
29 March, 1976

## PERFORMANCE SPECIFICATION SHEET

### LIFE RAFTS, INFLATABLE, SINGLE-PLACE

This specification is approved for use by the Naval Air Systems Command, Department of the Navy, and is available for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and the issue of MIL-PRF-81542 listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation.

#### REQUIREMENTS:

##### Type IV – Navy Non-Vacuum Packed Configuration

Packed Configuration. The non-vacuum packed configuration (Type IV) will be used for seat kits that have a small and/or irregular area for life raft packing. These include the RSSK-3 (T-2), SKU-2/A (EA-6B, F-14A), and SKU-6 (AV-8B/TAV-8B).

NOTE: Non-vacuum packed rafts shall be packed in accordance with applicable NAVAIR Seat Kit Manuals.

AMSC N/A

FSC 4220

1 of 1

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

NOTE: This draft, dated 21 June, 2001, prepared by NAWC-AD-PAX, has not been approved and is subject to modification. DO NOT USE FOR ACQUISITION PURPOSES.

INCH-POUND
------------

MIL-PRF-81542B/5 (AS)  
XX June, 2001  
 SUPERSEDING  
 MIL-L-81542A (AS)  
 29 March, 1976

## PERFORMANCE SPECIFICATION SHEET

### LIFE RAFTS, INFLATABLE, SINGLE-PLACE

This specification is approved for use by the Naval Air Systems Command, Department of the Navy, and is available for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and the issue of MIL-PRF-81542 listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation.

#### REQUIREMENTS:

##### Type V – Helicopter Backpack Configuration

Packed Configuration. The packed dimensions of the Type V raft shall be no larger than 12.5" x 19", 3" depth. The Type V raft shall incorporate a mounting method that is compatible with the helicopter aircrewman's aircrew life support equipment. The Type V raft shall also be compatible with the LR-1 Helicopter Backpack Case in order to be manually actuated. The packed configuration shall be in accordance with Figure 4.

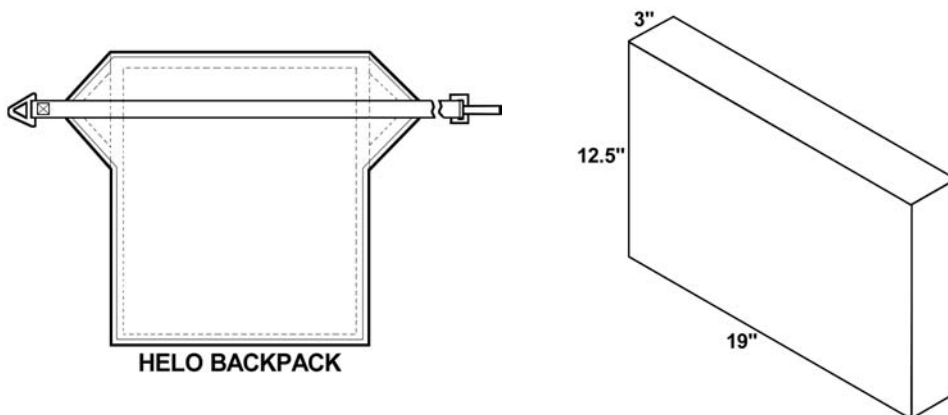


Figure 4.

AMSC N/A

FSC 4220

1 of 1

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

NOTE: This draft, dated 21 June, 2001, prepared by NAWC-AD-PAX, has not been approved and is subject to modification. DO NOT USE FOR ACQUISITION PURPOSES.

INCH-POUND
------------

MIL-PRF-81542B/6 (AS)  
XX June, 2001  
 SUPERSEDING  
 MIL-L-81542A (AS)  
 29 March, 1976

## PERFORMANCE SPECIFICATION SHEET

### LIFE RAFTS, INFLATABLE, SINGLE-PLACE

This specification is approved for use by the Naval Air Systems Command, Department of the Navy, and is available for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and the issue of MIL-PRF-81542 listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation.

#### REQUIREMENTS:

##### Type VI – USAF Configurations

Packed Configuration. The packed dimensions of the Type VI raft shall be no larger than 7.25" x 16" x 3.75". The inflation cord shall be located at the top right corner of the packed raft configuration. The packed configuration shall be in accordance with Figure 5.

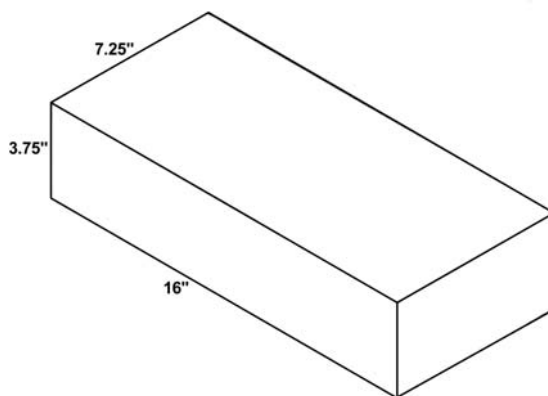


Figure 5.

AMSC N/A

FSC 4220

1 of 1

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

NOTE: This draft, dated 21 June, 2001, prepared by NAWC-AD-PAX, has not been approved and is subject to modification. DO NOT USE FOR ACQUISITION PURPOSES.

INCH-POUND
------------

MIL-PRF-81542B/7 (AS)  
XX June, 2001  
 SUPERSEDING  
 MIL-L-81542A (AS)  
 29 March, 1976

## PERFORMANCE SPECIFICATION SHEET

### LIFE RAFTS, INFLATABLE, SINGLE-PLACE

This specification is approved for use by the Naval Air Systems Command, Department of the Navy, and is available for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and the issue of MIL-PRF-81542 listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation.

#### REQUIREMENTS:

Type VII – USAF Configurations.

Packed Configuration. The packed dimensions of the Type VII raft shall be no larger than 11.625" x 12" x 3". The inflation cord shall be located at the top right corner of the packed raft configuration. The packed configuration shall be in accordance with Figure 6.

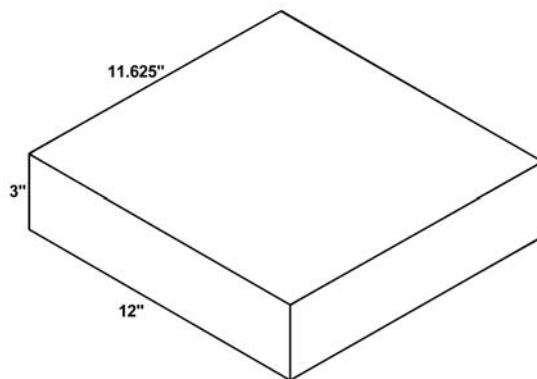


Figure 6.

AMSC N/A

FSC 4220

1 of 1

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.